

**DETAILED ACTION**

***Response to Amendment***

1. In response to the office action from 4/24/2008, the applicant has submitted an amendment, filed 6/20/2008, amending independent claims 1, 8, and 15, while arguing to traverse the art rejection based on the added limitations (*Amendment, Pages 14-16*). Applicant's arguments have been fully considered and claims 1-17 are allowable over the prior art of record with respect to the below examiner's amendment and reasons for allowance.
2. In amending claim 1 to incorporate an active additional means for outputting a pattern (*i.e., speaker, Amendment, Page 12*) recognition decision, which is directed to a practical application having a "concrete, useful, and tangible result", the applicants have eliminated the possibility of any further 35 U.S.C. 101 rejections.
3. Since the independent claims amended via the examiner's amendment now utilize the input data in the first and second transformation processes, the examiner has withdrawn the previous 35 U.S.C. 112, second paragraph rejection.

**EXAMINER'S AMENDMENT**

4. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Stanley Ference (*Reg. No. 33,879*) on 8/19/2008.

5. The application has been amended as follows:

On page 5, line 13 of the specification change " $f_a$ " to  $f_A$ .

In claim 1, line 10 change " $f_a$ " to  $f_A$ .

In claim 1, line 15 change "input pattern feature space" to "input pattern feature space from the input arrangement".

In claim 1, line 25, change "input pattern feature space" to "input pattern feature space from the input arrangement".

In claim 1, line 34, change "the degree" to "a degree".

In claim 1, line 36, change "decision" to "decision based on the model verification result".

In claim 8, line 9 change " $f_a$ " to  $f_A$ .

In claim 8, line 14 change "input pattern feature space" to "input pattern feature space from the input arrangement".

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In claim 8, line 24, change "input pattern feature space" to --input pattern feature space from the input arrangement--.

In claim 8, line 32, change "the degree" to --a degree--.

In claim 8, line 34, change "decision" to --decision based on the model verification result--.

In claim 15, line 11 change " $f_a$ " to -- $f_A$ --.

In claim 15, line 16 change "input pattern feature space" to --input pattern feature space from the input arrangement--.

In claim 15, line 26, change "input pattern feature space" to --input pattern feature space from the input arrangement--.

In claim 15, line 34, change "the degree" to --a degree--.

In claim 15, line 36, change "decision" to --decision based on the model verification result--.

***Allowable Subject Matter***

6. **Claims 1-17** are allowable over the prior art of record.

7. The following is an examiner's statement of reasons for allowance:

With respect to **Claims 1, 8, and 15**, the prior art of record fails to explicitly teach or fairly suggest, either individually or taken in combination, an apparatus, method, and computer-readable storage device storing a program for performing speaker/speech recognition by

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accepting input speech features, detecting an environment from a base model, producing a stacked target model based on a feature vector corresponding the base model's environment using the first equation set forth in the independent claims, producing a channel compensation stacked target model based on a target vector belonging to a second environment using the second equation set forth in the independent claims, performing verification by comparing the two stacked target models to determine mismatch to shift focus from  $f_B$  to or from  $f_A$  depending on the degree of mismatch, and performing pattern matching (*i.e., speaker recognition*, *Amendment, Page 12*) based on the model verification result.

Most pertinent prior art:

Rahim (*U.S. Patent: 5,960,397*) evidences that a speech recognition process that updates a recognition model by receiving input speech features (*Col. 5, Lines 31-42*), classifying an acoustic environment of a training or baseline model (*Col. 5, Lines 53-60; Col. 6, Line 31- Col. 7, Line 55; and Fig. 1, Element 18*), transforming a base model to a particular classifier environment by projecting or stacking the base model onto the classifier model feature vector space (*Col. 8, Lines 11-22; Col. 8, Line 59- Col. 9, Line 22; and Col. 10, Lines 55-56*), and recognizing speech using the stacked/transformed model (*recognized speech signal, Fig. 1*) is well known in the speech processing art. Rahim, however, does not teach that a model transformation is performed twice (*for stacked target model and channel compensation stacked target model*) using the equations set forth in the independent claims and that those models are further verified using a degree-of-mismatch comparison for model focus shifting (*Specification, Pages 6-7*) because Rahim only performs one type of model compensation and does not perform

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a step of model verification for focus shifting as is set forth in the independent claims. Thus, claims 1, 8, and 15 are allowable over the prior art of record.

The further dependent claims further limit claims containing allowable subject matter, and thus, are also allowable over the prior art of record by virtue of their dependency.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: See PTO-892.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James S. Wozniak whose telephone number is (571) 272-7632. The examiner can normally be reached on M-Th, 7:30-5:00, F, 7:30-4, Off Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached at (571) 272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/James S. Wozniak/  
Patent Examiner, Art Unit 2626